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EXAMINER	
LE, BRIAN Q	

ART UNIT	PAPER NUMBER
2623	6

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/784,912	Applicant(s) MASTRIANNI ET AL.	
	Examiner Brian Q Le	Art Unit 2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 May 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) *6* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5, and 7-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 February 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment and Arguments

1. Applicant's amendment filed May 20, 2004, has been entered and made of record.

2. Applicant's arguments with regard to claims 1-34 have been fully considered, but are not considered persuasive because of the following reasons:

Regarding claim 1, the Applicant argues (on page 11) that Adan does not disclose the concept of utilizing a filter to improve comparing of the resulting image with the pre-stored image. The Examiner respectfully disagrees. Applicant's arguments are directed toward various portions of the reference i.e. column 4, lines 1-10 cited by the Examiner. The Examiner points out that the rejections were based upon the entire reference. Therefore, Applicant is urged to consider the reference as a whole. In addition, Adan discloses a concept of predetermined image (pre-stored image) and shows the method of extracting (filtering) sample image followed the predetermined pattern (filtering) so that the matching (comparison) can be process. In order to have a comprehensive understanding of this concept, the Applicant is advised to further consider column 9, lines 30-76; column 10, lines 1-33; and column 12, lines 23-47. Previously, the Examiner pointed to column 4, lines 1-10 with the intention to urge the Applicant to consider the overall/entire reference to grasp this concept since column 4, lines 1-10 indicates the teaching of the overall system. In addition, Mahoeny also teaches this limitation "utilizing a filter to improve comparing of the resulting image with the pre-stored image (matching the input images with the stored images utilizing a predetermined threshold/filter) (column 3, lines 35-45).

The Applicant also argues (page 12) that there is no motivation in combining Adan to Mahoney. The Applicant asserts that Mahoney reference is to process image driven operating system and that Adan is to provide position information of a computer system based on

movements of the input device. However if the Applicant willing to consider both references beyond their titles and introductions, both references teach the concept of executing an application from the comparison of captured images to the stored images (disclosed in previous Office Action). The Examiner uses Adan's Reference in combination with Mahoney's Reference to further disclose the teaching of a digital edge detection algorithm to further identify a pattern or image from surface which can be reflected on sample area (after the extraction process is done) (column 9, lines 35-40). This would improve processing and therefore, it would have been obvious to one of the ordinary skill in the art to modify Mahoney according to Adan.

Thus, the rejections of all of the claims are maintained.

Claim Objections

3. Claims 1, 23 and 34 are objected to because of the following informalities: limitation (b) "**an digital** edge detection" resulted grammatical error. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-5, 7-14, 17-20, and 22-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Mahoney et al. U.S. Patent No. 6,519,607 and Adan U.S. Patent No. 6,373,047.

Regarding claim 1, Mahoney teaches a method for automatically launch an application (execute associated command) (abstract) in a computing device by authenticating a user (controlling image resource) (column 2, lines 28-30 and column 4, lines 55-62) via a digital camera associated with said computing device (column 2, lines 31-32), said method comprising:

(a) obtaining a digital representation of said user via said digital cameral (column 2, lines 30-35).

(c) comparing said resulting digital image to a pre-stored digital image of said user (FIG. 2, elements 26 and 28), wherein said comparing includes utilizing a filter to improve comparing of the resulting image with the pre-stored image (matching the input images with the stored images utilizing a predetermined threshold/filter) (column 3, lines 35-45);

(d) retrieving user information including an application to be launched in response to a successful comparison result, said user information being associated with said pre-stored digital image of said user (FIG. 2, element 30 and FIG. 3); and

(e) launching said application (column 3, lines 21-22).

However, Mahoney does not indicate the concept of filtering (extracting) digital representation with a digital edge detection algorithm. Adan teaches a method of launching an application by comparing images (FIG. 10 A and FIG. 12A), a concept of predetermined image (pre-stored image) and shows the method of extracting (filtering) sample image followed the predetermined pattern (filtering) so that the matching (comparison) can be process (column 9, lines 30-76; column 10, lines 1-33; and column 12, lines 23-47) and also filtering (extracting) digital representation with a digital edge detection algorithm (column 8, lines 40-49 and column 9, lines 35-37). Modifying Mahoney's method of launching an application by authenticating

user by digital image associated with computing device according to Adan would able to further identify the pattern of the image for more accurate matching by further identify a pattern or image from surface which can be reflected on sample area (column 9, lines 35-40). This would improve processing and therefore, it would have been obvious to one of the ordinary skill in the art to modify Mahoney according to Adan.

For claim 2, Mahoney teaches the method further comprising a step of aligning said user in relation to said computing device for obtaining a digital representation of said user (column 2, lines 55-60).

Referring to claim 3, Mahoney also teaches the method further comprising a step of centering (positioning) said resulting image with respect to a frame provided in said computing device (column 2, lines 55-60).

Regarding claim 4, Mahoney teaches the comparing step as discuss in claim 1. However, Mahoney does not teach the comparing step further comprising a step of sliding vertical and horizontal edges of said resulting image for the comparison. Adan teaches the comparing step wherein the sliding vertical and horizontal edge (scans across the image) of said resulting images was utilized (column 15, lines 32-39). Modifying Mahoney's method of launching an application by authenticating user by digital image associated with computing device according to Adan would able to fully compare the resulting image over pre-stored image. This would improve processing and therefore, it would have been obvious to one of the ordinary skill in the art to modify Mahoney according to Adan. Furthermore, it would have been obvious for one skilled in the art to slide the resulting image vertical and horizontal to be able to match with the pre-stored image.

For claim 5, Mahoney inherently indicates the resulting image and pre-stored image for said user are binary matrices (column 1, lines 18-42). Plus, it is well known for one skilled in the art that all computer data (including image data) are present in binary format (binary matrix).

Referring to claim 7, Mahoney teaches the method wherein said pre-stored digital image of said user is stored in a database on said computing device (FIG. 1, element 16).

Regarding claim 8, Mahoney teaches the method of send images between computing resources (computers) by an image/data processing software. Thus, it is obvious that one skilled in the art would use the data processing application as an email client to process claimed limitations in claimed 1. In addition, the Applicant indicates (bottom of page 4 in the specification) that e-mail client is the existing concept prior to this claimed concept was formed. Therefore, it would have been obvious for Mahoney to use e-mail client as the data processing software to send image/process image between computing resources.

Regarding claim 9, as discussed in claim 8, Mahoney further teaches a login process (column 4, lines 40-60), which obviously utilizes user information including username and password associated with said user. Plus, Adan also teaches this concept (FIG. 12B, element 236).

Regarding claim 10, please refer back to claim 8 for the discussion. Also, it is obvious that an email application would able to receive one or more email messages. In addition, Mahoney teaches the display concept (column 2, lines 30-35).

For claim 11, Mahoney teaches the method further comprising a step of sensing said user in proximity to said computing device for obtaining said digital representation of said user (column 2, lines 30-60).

Referring to claim 12, Mahoney teaches the method wherein said user interacts via an interface with a computing device for obtaining said digital representation of said user (column 2, lines 30-60).

Also to claim 13, as discussed in claim 1, Adan further teaches pre-stored digital image for said user is obtained from a pre-existing digital representation of said user filtered by an edge detection algorithm (column 9, lines 14-26).

For claim 14, as discussed in claim 1, Adan discloses the method wherein said edge detection algorithm is a one bit per pixel edge detection algorithm (column 9, lines 1-13).

Regarding claim 17, please refer back to claim 10 for the explanation. In addition, a monitor display that shows the process of the software which verifies the log in process would display the user's name.

Regarding claim 18, Mahoney further teaches the prompting said user to enter user information (login concept) and launching the application in response to a successful match if the there is no match found (no match found due to high threshold setting in matching) (column 4, lines 52-62).

Regarding claim 19, Mahoney teaches the concept of updating the pre-stored digital image (column 4, lines 40-51) of said user by merging said pre-stored digital image with said resulting digital image to generate a composite image (updated or resulted image generated by the rules of associations between the previously stored and the updating images).

For claim 20, Mahoney further teaches the updated/composite image is generated by taking an arithmetical mean (command associations) of said pre-stored digital image and said resulting digital image (page 4, lines 40-51).

For claim 22, Mahoney further teaches the method further comprising a step of prompting said user to confirm user information associated with said pre-stored digital image in response to said successful match of said user (column 16, lines 1-13).

For claim 23, please refer back to claim 1 for the explanation.

Referring to claim 24, Mahoney discloses the system wherein said computing device is connected to a communication network (the communication between the image computing resource and the database is a communication network) (column 2, lines 43-48).

Regarding claim 25, Mahoney teaches the system wherein said computing device is incorporated into a household appliance (column 1, lines 12-20).

For claims 26-34, please refer back to claims 8, 2, 3, 9, 10, 11, 18, 19, and 1 respectively for the explanations.

6. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Mahoney et al. U.S. Patent No. 6,519,607 and Adan U.S. Patent No. 6,373,047 as applied to claim 14 above, and further in view of the Applicant.

Regarding claims 15 and 16, Mahoney does not teach the concept wherein the detection algorithm is Sobel nor the filters are Laplacian and Gaussian filters. However, the Applicant indicates (on page 4 of the specification) that Sobel, Laplacian and Gaussian algorithms and filters are well known in the art of image edge detection and filtration. Therefore, it would have been obvious for one skill in the art to use Sobel, Laplacian and Gaussian algorithms to detect and filter edges or patterns within the image.

7. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Mahoney et al. U.S. Patent No. 6,519,607 and Adan U.S. Patent No. 6,373,047 as applied to claim 19 above, and further in view of McLaren U.S. Patent No. 6,546,123.

Regarding claim 21, Mahoney does not teach the concept of using a least squares algorithm for improving definition of edges of the image. However, McLaren teaches the concept of image edge detection using a least squares algorithm (FIG. 13 A, elements 228, 240; FIG. 14, element 270 and FIG. 16, element 282). Modifying Mahoney's method of launching an application by authenticating user by digital image associated with computing device according to McLaren would able to further improves the definition of edges of the image. This would improve processing and therefore, it would have been obvious to one of the ordinary skill in the art to modify Mahoney according to McLaren.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q Le whose telephone number is 703-305-5083. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703-308-6604. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5397 for regular communications and 703-308-5397 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

BL
June 2, 2004

SAMIR AHMED
PRIMARY EXAMINER